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CLINICAL ASPECTS OF MEDICAL AND SOCIAL SUPPORT FOR PATIENTS WITH ALCOHOL INTOXICATION IN MEDICAL EMERGENCY CARE DEPARTMENT

Olim Khusenov

The Republican Scientific Centre of Emergency and Medical Aid, Tashkent, Uzbekistan, Bukhara State Medical Institute Bukhara, Uzbekistan

Abstract: There is a higher pace of readmission to emergency care framework patients with alcohol use issues. Subsequent to getting emergency care a large portion of patients don't contact with addiction service and family isn't associated with the rehabilitative process.We plan to concentrate on ways of lessening readmission of patients with alcohol use issues to emergency care through improving psychosocial care and association of relatives as members' brief intercession.

Keywords: Alcohol, Brief intervention, Hazardous and harmful drinking, emergency care, Cognitive Behavioral Therapy.

Methods and design: We will perform randomized clinical preliminaries on the patients. We will isolate patients into two distincts , experimenting group and comparative group; we will present and evaluating 75 patients separately and afterward we will survey them based on their mental conductance including their relatives utilizing MMES , Reitan's test and AUDIT test. Compliantly, we will send the patient alluding to the narcological centers.

Result : In the wake of carrying out the clinical preliminaries on the trial distincts, it was discovered that association of relatives in the brief intevention brings about a lower pace of readmission of patients with alcohol use problem to emergency care framework.On the other hand,after conducting the clinical preliminaries on the comparative gathering, it was discovered that the readmission paces of the patients into the emergency care framework didn't transpose.

CONCLUSION Appraisal of mental conductance and from there on practicing psychosocial support procedures that energize involvement of relatives as in a brief intervention into the course of rehabilitation which positively affect the patients and help diminishing the quantity of readmissions in the emergency care departments.

Background

In many parts of the world, individuals and societies face significant consequences related to alcohol consumption. These deleterious consequences include effects on personal health and safety, domestic and family violence, and public safety. The World Health Organization (WHO) estimates that 3 million deaths occur annually as a result of the harmful use of alcohol worldwide, which is 5.3% of all deaths. Research shows regional, national and local differences in levels, nature and social context of alcohol consumption, but overall negative health effects are clear.

Dynamics of substance use disorders in Uzbekistan is characterized by an increase in alcohol dependence while there is a constant decline in drug misuse. As such, between 2008 and 2018 drug

dependence morbidity has decreased from 8.2 cases per 100,000 populations to 2.6 cases accordingly. At the same time morbidity of alcohol dependence has increased from 13.0 to 24.3 respectively.[1]

Almost a two-fold increase is observed in emergency admissions of people with acute alcohol intoxication in Uzbekistan that accounts for 47% of all acute poisoning cases.[2] Available data suggests that 90% of all patients (6578 people) with acute alcohol intoxications admitted to emergency departments throughout Uzbekistan in 2018 were chronic alcohol abusers.[3]

Although emergency care system in Uzbekistan provides effective pharmacological treatment for detoxification of such patients, follow-up care and linkages to drug dependency treatment services are inadequate. That is reasons for very low number of substance dependent patients seek treatment for their dependence after discharge from emergency hospitals. As a result, the patients who had been admitted due to acute alcohol intoxication can be re-admitted to emergency care with the same diagnosis in a short period of time that increases the costs healthcare, risks of injuries, violence and crime. Despite of solid international experience and availability of strong ties with patients' family members as a means of social support the emergency care lack psychosocial interventions to reduce harms associated with their dependence.[4]

In most developed countries the standard treatment for Alcohol misuse disorder consists of Detoxification therapy and antidote therapy by drugs such as Nalaxone, Nalorphin etc combined with psychosocial therapy such as Cognitive Behavioral Therapy (CBT), Motivational interviewing, Motivational enhancement therapy, self help groups and so on. These kind of combination therapies have shown great results and should be implemented in Uzbekistan as well. At the moment in Uzbekistan although drug therapy is being used quite proficiently but the lack of psychosocial and motivational intervention leads to recurrent visits of alcohol misuse disorder patients in ED's. Because of the single dimensional approach of treatment although the problem is managed temporarily the underlying root cause survives, and the alcohol consumption rate has been increasing steadily. Psychological, socio-economic factors play a big part in chronic alcoholism thus treating only with drugs solves only the symptom but not the cause. Thus we should implement multi faceted treatment programs including both drug and psychotherapy to reduce the alcohol consumption in Uzbekistan and in doing so reduce the concurrent alcohol misuse disorder[5].The effectiveness of the impact on the patient's behavior depends on the state of his cognitive functions. At the same time, it was found that most patients with alcohol intoxication admitted to emergency hospitals in Uzbekistan are discharged with persistent cognitive disorders of varying severity due to metabolic disorders, hypoxia and toxic liver damage.

According to the results of scientific studies by both foreign and Uzbek authors, a significant effect of such metabolites as free ammonia (a marker of hepatic encephalopathy) and lactate (a marker of tissue hypoxia) on the formation of cognitive impairment in patients with alcohol intoxication was revealed. This allows ammonia and lactate to be used also as an indirect criterion for monitoring the dynamics of improvement in the patient's condition, which, in combination with a specific assessment of the

[1] 1Alcohol consumption in the Republic of Belarus: medico-social and socio-economic aspects: monograph / A. A. Kralko [and others]. - Minsk: Kolorgrad, 2018 .-- 180 s

[2] The use of drug addiction counseling and brief psychocorrectional intervention in the comprehensive prevention of alcohol dependence in the work of the teams of the primary care of outpatient and inpatient medical care. Methodological recommendations / A. V. Trusova, E. M. Krupitsky. - SPb., 2012 .-- 21 p.

[3] Alcohol consumption in the Republic of Belarus: medico-social and socio-economic aspects: monograph / A. A. Kralko [and others]. - Minsk: Kolorgrad, 2018 .-- 180 s

[4] Data provided by the chief narcologist of the Ministry of Health of Uzbkistan, December, 2020

[5] Landy, M.S.H., Davey, C.J., Quintero, D., Pecora, A. & McShane, K.E., A Systematic Review on the Effectiveness of Brief Interventions for Alcohol Misuse Among Adults in Emergency Departments, *Journal of Substance Abuse Treatment* (2015), doi: 10.1016/j.jsat.2015.08.004

patient's mental status, can facilitate the determination of the most favorable time to start psychosocial intervention on the patient.

Thus, in order to prevent repeated visits and disability of patients with alcohol intoxication to toxicological departments, it is necessary to create a unified system of medical and psychosocial care for patients with acute alcohol poisoning at the hospital stage and after discharge from the hospital.

Aim of the research:

To reduce the number of complications and repeated hospitalizations in patients with acute alcohol intoxication by developing a unified system of medical and psychosocial care.

Objectives of the experiment:

1. To study the effect of free ammonia and lactate in the blood on the effectiveness of psychosocial intervention in patients with acute alcohol intoxication.

2. To develop a scoring system for assessing the readiness of patients with acute alcohol intoxication to participate in psychosocial work through the integrated use of cognitive scales - MMSE, the Reitan test, and biochemical parameters in patients with alcohol intoxication.

3. Based on the developed assessment system, to clarify the timing of psychotherapeutic measures depending on the severity of cognitive impairment and implement them at the inpatient stage of medical care in patients with alcohol intoxication.

4. To develop a method of psychosocial treatment of patients with acute alcohol intoxication based on the approach of Brief Intervention with the participation of family members of patients and study its effectiveness.

5. Develop algorithms for medical and psychosocial assistance to people with problematic alcohol consumption, depending on the severity of cognitive impairment.

Method -Randomized clinical trial.

It is planned to examine at least 150 patients aged 18 to 60 years with problematic alcohol use (AUDIT=8-19 test) admitted to the Republican Scientific Center for Emergency Medical Care and its Bukhara branch.

Patients will be divided into two groups:

1. Experimental group - 75 patients who will undergo:

i. The study of the level of ammonia and lactate in the blood;

ii. Assessment of cognitive functions using MMSE and the Reitan test;

iii. Standard drug therapy for acute alcohol intoxication;

iv. Assessing problematic alcohol use using AUDIT at the start of the intervention, at 1, 3, and 6 months;

v. Brief intervention for patients with the participation of family members;

vi. Clarification of the problematic alcohol consumption of the patient according to information from family members;

vii. Referral to drug treatment facilities.

2. Comparative group - 75 patients who will undergo:

i. The study of the level of ammonia and lactate in the blood;

ii. Assessment of cognitive functions using MMSE and the Reitan test;

iii. Standard drug therapy for acute alcohol intoxication;

iv. Assessing problematic alcohol use using AUDIT at the start of the intervention, at 1, 3, and 6 months;

v. Brief intervention for patients with no involvement of family members;

vi. Clarification of the problematic alcohol consumption of the patient according to information from family members;

vii. Referral to drug treatment facilities.

Stages of the study:

After acquiring consent from the Ethics Committee:

The following research will be presented in the dissertation work:

1. Assessment of the clinical condition of patients upon admission to a medical emergency care in dynamics.
2. Studying the results of a biochemical blood test (the level of blood enzymes, bilirubin, free ammonia and blood lactate) upon admission and in dynamics on the 2nd, 3rd, 5th day.
3. The study of the degree of change in consciousness in terms of quality according to the MMSE (Mini mental state examination) scale for 10 positions in points and the Reitan test designed to diagnose latent forms of encephalopathy at admission and in dynamics on the 2nd, 3rd, 5th day.
4. Assessment of problematic alcohol use using AUDIT at the start of the intervention, at 1, 3 and 6 months;
5. Examining the rate of readmission to emergency departments due to problematic consumption in patients.

Statistical processing of the material will be performed using the methods of variational statistics of biomedical profile.

Participants.

The main inclusion criteria:

1. Being admitted to emergency clinic due to alcohol intoxication related medical condition
2. Age: 18 years and older.
3. Confirmation of alcohol abuse within the last 90 days.
4. 8 or more points on the test for detecting alcohol-related disorders (AUDIT).
5. Patient aims to abstain from alcohol consumption

Exclusion criteria:

1. Psychotic disorder
2. Unable to give informed consent to participate in the study
3. Inability to read and understand text in Uzbek or Russian
4. Unable to be present in subsequent evaluations

Interventions.

Brief family based intervention.

Participants allocated to the Brief family based Intervention) condition will be offered a discussion of approximately 10 -20 minutes duration [4]. Family intervention is also helpful to prevent problems of the spouse or children of alcoholics. At the beginning of the study, most of the families were characterized by poor communication pattern, lack of mutual warmth and support, poor role functioning, lack of leadership and spouse abusing. Spouses of alcoholics expressed greater

dissatisfaction in all areas of family functioning. After family intervention therapy, these families expressed greater satisfaction in family functioning, such as free and open communication, mutual warmth and support, becoming ideal role models, evincing good leadership, cohesiveness and sharing of responsibilities.This intervention contains a number of structured components in the form of an intervention protocol. The conversation begins by building rapport through asking questions about participants' experience of answering the AUDIT screening questions. Participants are then encouraged to talk about how drinking fits in with their lives, explore any ambivalence and elicit their evaluation of their drinking including any problems associated with it.

Among the various treatment modalities, Brief family based intervention is the most notable current advance in the area of psychosocial treatment of alcoholism. Brief family based intervention is a method of understanding and encouraging the role of family, and it imparts positive effect in decreasing alcohol consumption. The ingredients of this mode of therapy include[6]

1. building up an alliance with relatives
2. reducing adverse family atmosphere
3. enhancing problem-solving capacity of family members
4. decreasing of anguish and repentance
5. maintaining reasonable expectations for patient performance
6. Achieving changes in family members' behavior and belief system.

Heavy alcohol consumption exerts a deleterious effect on the family. The extent of the negative impact varies among family members and from family to family. It often results in serious emotional and medical problems. Brief Family based intervention treatment in the field of alcoholism is a relatively new phenomenon. Family members' negative responses to the alcoholic's behavior usually reinforce the individual's alienation and dependency resulting from alcoholism.

An alcohol-dependent person seeks professional help mostly persuaded by his wife, family members, neighbors, co-workers, employer, etc. Need for immediate care may be due to a threat of divorce, dismissal from job, serious injury due to fall, aborted marriage proposal to his ward, health hazards, etc. Many studies conducted in the field of alcoholism have concluded that better outcome is possible when alcohol-dependent persons receive non pharmacological therapy along with pharmacological treatment. However, most of these studies were confined to selective psychotherapy techniques, leaving the comprehensive psychosocial treatment to be an unexplored area.

Expected results of research work and its novelty:

This study will explore for the first time the following questions:

1. A score system will be developed to assess the readiness of patients with acute alcohol intoxication to participate in psychosocial work through the integrated use of cognitive scales - MMSE, the Reitan test, and biochemical parameters in patients with alcohol intoxication.
2. Depending on the severity of cognitive impairment, based on the developed scoring system for assessing the patient's condition, the timing of psychotherapeutic measures in patients with alcohol intoxication will be specified;
3. The impact of involving family members in brief intervention on reducing problematic alcohol consumption in patients will be determined.
4. An algorithm for medical and psychosocial assistance to persons with problematic alcohol consumption will be developed, depending on the severity of cognitive impairment.

[6] Suresh Kumar PN, Thomas B. Family intervention therapy in alcohol dependence syndrome: One-year follow-up study. Indian J Psychiatry. 2007 Jul;49(3):200-4. doi: 10.4103/0019-5545.37322. PMID: 20661387; PMCID: PMC2902094.

5. The development of a scoring system based on laboratory and screening research methods will make it possible to determine in more detail the strategy of drug and psychosocial correction of patients.
6. The study of patients with alcoholism in the early stages of the formation of alcohol dependence and related somatic complications will lead to an improvement in the quality of life and social interaction.
7. The development of algorithms for medical and psychosocial assistance will reduce the frequency of repeated hospitalizations, disability of patients with alcohol intoxication and rationalize material

Data collection

The study is planned on the basis of the Bukhara branch of the Republican

Scientific Center of Emergency Medicine in Uzbekistan.

Additional trial web pages have been developed and incorporated into the

existing online system for doctors to record trial data.

RD will arrange by telephone calls with study participants.

The primary and secondary outcomes specified above will be collected in the

follow-up study telephone call after three, six ,twelve months.

Randomisation

Sequence generation i expect to recruit 150 participants on average over a period of approximately 3 months , 6 months, 12 moths with equivalent numbers of intervention (N = 150) participants randomised by me.

Statistical methods

The data will be analysed on an intention to treat basis. For outcome measures t-tests or Mann–Whitney tests will be used for continuous data and chi-square tests used for categorical data. If possible confounding is identified, ANCOVA and logistic regression will be used to examine the effect of the interventions over and above these other factors, and effect sizes and odds ratios calculated. For all tests, if necessary, measures will be transformed before analysis. All analyses not conforming to an a priori statistical plan will be declared as exploratory.7

CONCLUSION

Thus, due to the availability and coverage of large numbers of patients, emergency care has the potential to be used to reduce the risk from problem drinking.

The most effective approach to preventing drunkenness and alcoholism is an approach aimed at gradually changing traditions in society.

The present study suggests that comprehensive multimodal patient-friendly treatments are more effective than any single approach in the management of alcohol dependence therefore family members should be interviwed.

Patients' motivation to accept the mode of treatment is a crucial factor in the success of therapy.

Many of the alcohol-dependent patients have impaired marital/family functioning, thereby pharmacological treatments along with psychosocial support is the best method for treatment.

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